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Impact of dedicated clinicians on the outcomes of an immediate concurrent feedback antimicrobial stewardship program in a hematology-oncology unit

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Background: Infectious diseases (ID) specialists are a core element of an immediate concurrent feedback (ICF) antimicrobial stewardship team. Owing to manpower changes, an antimicrobial stewardship program (ASP) originally anchored by a dedicated ID specialist was switched to a team of rotational ID trainees. We reviewed the impact of this on the outcomes of an ASP in the hematology-oncology unit of a tertiary care hospital.

Methods: Hematology-oncology inpatients who were prescribed broad-spectrum antibiotics were reviewed by a multidisciplinary team. Cases that required optimization of therapy were issued written recommendations by the ID physician. A dedicated ID specialist anchored the program in the first year, while rotating ID trainees covered in the second year. Outcomes analyzed included compliance to recommendations made and antibiotic consumption in terms of defined daily doses (DDD) per 100 inpatient-days.

Results: 1415 and 1168 cases were reviewed during the first and second years respectively. 649 recommendations were made in the first year and 266 in the second year. Compliance was higher in the first year (87.8% versus 73.3%, p = 0.0002). Positive clinical outcomes post-recommendation acceptance was observed in 79.2% in the first year, but only in 68.9% during the second year. Average monthly consumption of antibiotics increased from 81.25 DDD/100 inpatient-days in the first year, to 97.49 DDD/100 inpatient-days in the second year (p = 0.0006). Carbapenem, piperacillin/tazobactam and quinolone use increased by 38%, 86% and 15% respectively. Of note, subsequent restoration of dedicated ID specialist reviews saw the average monthly consumption of antibiotics declining to 78.19 DDD/100 inpatient-days in four months and recommendation compliance rate improving to 81.0%.

Conclusion: Committed and experienced ID physicians are integral to an effective ASP. Possible reasons for the enhanced effectiveness in this setting include increased clinical experience with immunocompromised patients leading to improved patient outcomes, stronger rapport with the primary team and a greater sense of accountability to both the patients and outcomes of the ASP.

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Scenario of rabies in Bangladesh: New initiatives needed

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Background: Rabies, a neglected, fatal zoonotic disease, is widely distributed and continues to be a major public health issue in many developing countries like Bangladesh. Only few studies have been done regarding the true incidences of the disease and nationwide epidemiological pattern of rabies. This cross sectional study on rabies affected population was carried out to identify the patterns of presentation, age group at risk, vaccination status following animal exposure, principal animal responsible for rabies development, the time interval between animal exposure and the development of the disease.

Methods: Data were obtained from case records of clinically diagnosed human rabies patients of Infectious Disease Hospital (IDH), Dhaka, Bangladesh from January 2000 to December 2007.

Results: The number of reporting rabies cases each year remain almost same. 86.7% were from rural areas and majority (61.2%) victims were children. Male (74.2%) were predominant. Majority (84.3%) of the cases were not vaccinated. Among the 190 cases who received vaccine, only 15.8% were treated with tissue culture vaccine and rest 84.2% were nerve tissue vaccine. Only 4 cases were treated with Rabies Immunoglobulin. Dogs were the principal stray animal responsible for rabies development. 57.6% patients developed rabies within 30 to 90 days after the animal exposure.

Conclusion: Rabies being a completely preventable but incurable disease is an important cause of mortality in the developing countries like Bangladesh and is very difficult to eliminate. We suggest the following measures to eliminate rabies from Bangladesh-effective control of canine rabies, easily available WHO recommended tissue culture vaccine and Rabies Immunoglobulin at a cheaper price, health education, highly committed and coordinated actions between different government and non-government organizations. So, it is a very high time to look into the matter with special attention to control and then to eliminate this public health problem in Bangladesh.

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